

County of Los Angeles Quality and Productivity Commission
PRODUCTIVITY INVESTMENT FUND PROPOSAL
(Please submit the proposal with a cover letter signed by the department head)

Last Updated: May 1, 2019

Department: Acute Communicable Disease Control

Date: April 3, 2020

Project Name: Community Participatory COVID-19 Symptom Monitoring

PURPOSE OF FUNDING (50 words). Describe how the PIF funding will be used.

Funding is urgently needed to fulfill a critical data gap—understanding the burden of COVID-19, particularly when many with mild illness will not seek care and not be tested. We propose leveraging text messaging to engage our communities and create a dataset that will inform public health response.

SUMMARY OF PROJECT, INCLUDING BENEFITS (300 words). Describe benefits and potential multi-departmental or countywide adaptation.

Monitoring illness trends is essential for controlling the COVID-19 pandemic. However, all COVID-19 infections that occur in Los Angeles County cannot be measured. Many with mild illness will not seek medical care, and consequently would not be detected by current public health monitoring systems that require a test result or a medical visit.

Engaging our communities directly will help solve this problem. We propose recruiting volunteers from across Los Angeles County to receive text messages once a week from an automated system. These messages will ask if they have a fever or other symptoms associated with COVID-19. In addition, we will ask for zip codes and age categories on enrollment, which will help create disease maps, and better understand who is participating and who is becoming sick.

Creating a network of volunteers will help us monitor the health of our communities directly in near real-time, and subsequently inform our public health response. Monitoring illness trends will help inform the evaluation of public health programs to control the pandemic, such as social distancing measures. This program will also provide an opportunity for communities to engage with local government and empower individuals to make direct contributions to public health.

Funding is critical to support 1) the direct costs associated with sending automated text messages, and 2) the outreach effort to establish the panel. Given the diversity of Los Angeles, an outreach campaign needs to be not only multi-lingual, but would need to resonate with a variety of age and cultural groups.

No comparable datasets currently exist. While other citizen science platforms exist (e.g., Flu Near You), these platforms are only crowdsourced with few users. Our proposal leverages text messaging to ensure a high participation rate, and generate a quality dataset that can be used to inform public health intervention.

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EVALUATION/PERFORMANCE MEASURES. (300 words) Describe what specific outcomes are to be achieved and how the project will enhance quality and/or productivity.

The emergent nature of the pandemic requires rapid implementation of three key outcomes for this project:

1. Engineer text-messaging platform.
2. Design and conduct outreach campaign.
3. Enhance quality of public health decision-making.

Engineer Text-Messaging Platform

We plan to utilize a software platform for which DPH already has a license. Enrollment will occur entirely via text messages. People who wish to join will send a short code via text message to a five-digit number. They will receive a welcome message with a link to an informational website for more information and respond to questions about their zip code, age category, and gender.

Text messages will then be sent to 1/7th of the panel each day of the week. Participants will be asked if they have a fever, and whether they have symptoms consistent with COVID-19 (e.g., cough, shortness of breath).

Design and Conduct Outreach Campaign

Our volunteers must be representative of the diversity of Los Angeles to the extent possible. An outreach consultant will be critical to help ensure that our campaign resonates with a variety of age and cultural groups and utilize both radio and online media. We will also engage our communications department to include the campaign in press releases and other material.

Enhance Quality of Public Health Decision-making

Public health decision-making must be based on sound data—however, the unusual challenges of COVID-19 limits our ability to rapidly gather information about the health of our communities. This proposal permits the creation of a dataset that does not currently exist and generates an additional source of information from which we can inform the implementation of public health interventions to help control the outbreak.

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Is this an Information Technology project? If yes, please obtain endorsement and sign off from your department's CIO/IT manager and answer question 5 on page 3 below.

☒ Yes ☐ No ☐ N/A

Amount Requested:

<u>Loan</u> _____	<u>Grant</u> <u>\$194,380</u>	<u>Total</u> \$194,380
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Cost Analysis Summary. Attach detail for A and B, including staff, equipment, supplies, etc.

	<u>Implementation Period</u>	<u>Project Year 1</u>	<u>Project Year 2</u>	<u>Project Year 3</u>
A. Annual Cost of Current Process:	NA	NA	NA	NA
B. Estimated Annual Cost of Proposal:	\$194,380	\$194,380	NA	NA
C. Savings (B minus A)	NA	NA	NA	NA

Funds Flow Summary: Indicate the amount of funds needed during implementation by period (fiscal year and quarter)

The COVID-19 pandemic requires an emergent response, and consequently this project will pursue an aggressive implementation schedule. We request funds that will support a 5-month period for 20,000 volunteers between April and September 2020. However, as the panel must be established rapidly, the total amount of funds will be needed in Q4 of 2019-2020.

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**** Original Signatures Required ****

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QUESTIONS

1. Has this proposal been submitted before for a Productivity Investment Fund loan or grant? Yes _____ No X _____

If so, when (date)?

2. Was this proposal included in the department's current budget request?

Yes _____ No X _____ If no, why not?

This pandemic has provided unusual challenges that were not anticipated. While DPH has other data streams to monitor disease incidence, most of these data sources are hospital-based. With social distancing, many people will avoid seeking medical care, and these hospital-based data sources become less useful.

3. How many years will it take for the loan to be paid back (3 years maximum without special approval)? Where will the funds come from to repay the loan? NA

Hard Dollar Savings

Cost Avoidance

Revenue Generation

Other (please explain) NA

4. Discuss potential for revenue increase, service enhancement, future cost avoidance and/or cost savings. Does it reduce net County cost?

This project will not reduce net County cost, as this project was not budgeted due to the unanticipated nature of the COVID-19 pandemic.

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5. (300 words) How does this proposal extend, amplify, or complement existing cross-County best and shared practices (including, if applicable, technology or sustainability practices); describe the proposed solution in terms of its innovative use of technologies to achieve desired business outcomes, and/or Department strategic goals and objectives?

This proposal is a novel and innovative application of text messaging to collect and transmit information with the general public. Implementing this program will provide valuable experience in leveraging text message platforms, which have not been widely used in Los Angeles County, but could help minimize disparities in access to technology. In the U.S., one in five people does not own a smartphone, while cell phone ownership is close to 96%.¹ Cell phone ownership is similarly high even among people experiencing homelessness—a 2017 study conducted in the Los Angeles area found cell phone ownership to be 94%, while only half owned smartphones.² Text messages may provide an important avenue for disseminating or collecting health-related information regardless of access to technology.

(1) Pew Research Center (2019). Mobile Fact Sheet. Available:

<https://www.pewresearch.org/internet/fact-sheet/mobile/>

(2) Harmony Rhoades, Suzanne L. Wenzel, Eric Rice, Hailey Winetrobe & Benjamin Henwood (2017): No digital divide? Technology use among homeless adults, Journal of Social Distress and the Homeless, DOI: 10.1080/10530789.2017.1305140

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6. (150 words) Is the proposal a pilot project? If so, what are the conditions for further expansion or development?

This program is designed to be specific for the COVID-19 pandemic and should not be considered a pilot project. However, DPH experience with establishing this platform may inform the creation of future similar platforms to monitor other seasonal diseases (e.g., influenza).

7. (300 words) Toward which current County objectives will this project maximize and leverage resources and/or drive innovation and operational effectiveness. What current County processes or functions will be eliminated or streamlined via productivity enhancements and/or quality improvements?

This proposal provides an innovative data source to help manage the COVID-19 pandemic. Leveraging a text-message platform will provide streamlining of data collection, as establishing a volunteer network this size with traditional methods would be labor-intensive and costly.

8. (300 words) Does this proposal relate to a specific Countywide Strategic Plan goal? If yes, please explain.

This project directly supports all three goals outlined in the Countywide Strategic Plan. First, this volunteer network will be used to help inform and evaluate our delivery of comprehensive interventions, like social distancing (*Goal I: Make Investments That Transform Lives*). Second, this program will establish a method for public health to directly monitor the health of our communities (*Goal II: Foster Vibrant and Resilient Communities*). Finally, this program embraces digital government through the innovative use of text messaging (*Goal III: Realize Tomorrow's Government Today*).

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9. (150 words) Does this proposal enhance the County image and/or improve relationships with the County's constituents? Please explain.

By establishing a network of volunteers, this program provides an opportunity for communities to engage with local government, and enable individuals to make direct contributions to public health. Our outreach efforts will also likely enhance the County's image by highlighting the government's willingness to embrace digital tools, and emphasize that all are invited to participate regardless of access to a computer or the Internet. While this type of program is rare in public health, other citizen science models have demonstrated benefits through direct engagement, including NASA GLOBE Observer and National Weather Service storm spotters.

10. (150 words) How might this proposal promote interdepartmental cooperation including, if applicable, data sharing and program design?

We expect that this project will further accelerate existing cooperation with the Department of Health Services, with whom we are already sharing data and coordinating our response. This data would be of particular interest to DHS leadership, and would provide additional context from which the need of clinical services can be better forecasted or modeled.

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11. (150 words) Where did the original idea for this project come from?

Our team was tasked with identifying ways to measure the burden of COVID-19 on our communities. We rapidly realized, however, that the current data sources were very limited. Most public health reporting occurs in healthcare settings, and, especially with social distancing measures in place, many with mild disease will not seek care. Test results have also remained limited, and those with mild disease will never receive a diagnosis.

We work as an interdisciplinary team, with backgrounds ranging from epidemiology to clinical medicine to anthropology. Drawing inspiration from other crowdsourced participatory platforms, we realized that by engaging our communities directly, we could directly solve this urgent data need.

12. When will the funds be needed? Please indicate the amount needed by fiscal year and quarter:

2019-20

1st Quarter \$ _____

2nd Quarter \$ _____

3rd Quarter \$ _____

4th Quarter \$ 194,380

2021-22

1st Quarter \$ _____

2nd Quarter \$ _____

3rd Quarter \$ _____

4th Quarter \$ _____

2022-23

1st Quarter \$ _____

2nd Quarter \$ _____

3rd Quarter \$ _____

4th Quarter \$ _____

2023-24

1st Quarter \$ _____

2nd Quarter \$ _____

3rd Quarter \$ _____

4th Quarter \$ _____

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IMPLEMENTATION PLAN

<u>KEY MILESTONES</u>	<u>START DATE</u>	<u>FUNDS NEEDED</u>	<u>FUNDS REPAID</u>
(Major steps in the project development)	(Estimated date for each project step)	(Amount and quarter funds will be needed)	(Amount and quarter funds will be repaid)
<i>Planning / Prototyping</i> <ol style="list-style-type: none"> 1. Create and test prototype. 2. Obtain non-research determination. 3. Finalize draft protocol. 4. Vet consultants. 5. Draft informational website. 	Tuesday, April 21, 2020	<p style="text-align: right;">\$0</p> <p style="text-align: right;">2019-2020 Q4</p>	<p style="text-align: right;">\$</p>
<i>Soft Launch</i> <ol style="list-style-type: none"> 1. Recruit 2,000 volunteers using existing social media platforms (e.g., County Twitter, Facebook). 2. Refine workflows and resolve key issues. 3. Work with outreach consultant to design strategy, messaging, and produce outreach materials. 4. Begin developing code and processes for data analysis. 	Monday, April 27, 2020	<p style="text-align: right;">\$137,400</p> <p style="text-align: right;">2019-2020 Q4</p>	
<i>Launch Expansion</i> <ol style="list-style-type: none"> 1. Initiate multi-modal outreach campaign in multiple languages targeting representative populations of Los Angeles County. 2. Recruit 19,800 individuals. 	Monday, May 4, 2020	<p style="text-align: right;">\$56,980</p> <p style="text-align: right;">2019-2020 Q4</p>	

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<i>Data Analysis</i> <ol style="list-style-type: none">1. Participants will receive text messages on a rotating basis (1/7 of the panel will receive a text message each day of the week).2. Data will be analyzed on a weekly basis, and include illness rates, participation rates, and illness maps.3. Analysis will be summarized in weekly reports.	Monday, May 4, 2020	\$0 2019-2020 Q4	
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LINE ITEM BUDGET DETAIL

(Work with your Budget Analyst)

Services and Supplies

Existing Survey Platform License Extension to include SMS (2.5 Million SMS)
\$97,400

Note: DPH has an existing survey platform license. However, text messaging (SMS) require additional costs. This estimate assumes a panel of 20,000 volunteers participating for a period of 20 weeks.

Outreach Consultant and Related Fees \$96,980

(a) Total services and supplies **\$ 194,380**

Other Charges

List all other charges here

(b) Total other charges **\$ 0**

Fixed Assets

List all equipments and other fixed assets here

(c) Total fixed assets **\$ 0**

TOTAL COSTS (a+b+c) \$194,380